UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,461	10/28/2003	Harumi Anne Kuno	200207002-1	5631

22879   7590   07/22/2008
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ART UNIT	PAPER NUMBER
2194	

NOTIFICATION DATE	DELIVERY MODE
07/22/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 April 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-16,18,19,21-23 and 25-28* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-4,6-16,18,19,21-23 and 25-28* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

DETAILED ACTION

1.   Claims 1-4, 6-16, 18, 19, 21-23 and 25-28 are pending in the application.

2.   In view of the Appeal Brief filed on 04/03/2008, PROSECUTION IS HEREBY

REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the

following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply

under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed

by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and

appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth

in 37 CFR 41.20 have been increased since they were previously paid, then appellant

must pay the difference between the increased fees and the amount previously paid.

Response to Arguments

3.   Applicant's arguments with respect to the claims have been considered but are

moot in view of the new ground(s) of rejection.

Specification

4.   The specification is objected to as failing to provide proper antecedent basis for

the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction

of the following is required: the specification does not provide proper antecedent basis

for "computer-readable medium".

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

6.   Claims 13 – 16 and 18 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter.

Claims 13 – 16 and 18 recite a "computer-readable medium" and the

specification fails to provide antecedent bases for this limitation [see objection to the

specification above]. Without antecedent basis for "computer-readable medium", it is

unclear if the limitation intended to be the same as the storage media described as part

of the disclosed program product or whether it's intended to be broader than the

disclosed storage media. It is believed that the limitation "computer-readable medium"

is intended to claim something broader than the disclosed storage media and cover

signals, waves and other forms of transmission media, that carry instructions.

Therefore, the limitation "computer-readable medium" is not limited to physical articles

or objects which constitute a manufacture within the meaning of 35 USC 101 and

enable any functionality of the instructions carried thereby to act as a computer

component and realize their functionality. As such, the claim is not limited to statutory

subject matter and is therefore non-statutory.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

9.   **Claims 1-4, 6-16, 18, 19, 21-23 and 25-28 are rejected under 35 U.S.C. 103(a)**

as being unpatentable over "A Planner for Composing Services Described in

DAML-S" to Sheshagiri et al. [hereinafter Sheshagiri] in view of "Web Services

Invocation Framework" to Duftler et al. [hereinafter Duftler].

10.   As to claim 1, Sheshagiri teaches a processor-implemented method for

interfacing with a distributed computing service [composes atomic/basic

services described in DAML-S [4] into a composite service; Abstract], comprising:

accessing an ontology specification [DAML-S uses DAML+OIL to describe a set of ontologies for characterizing web services; Section 3] describing messages of the distributed computing service [DAML+OIL helps us to describe explicit ontologies for capturing domain language; Section 2];

accessing a semantic interpretation specification that describes rules for semantically handling the messages [used the Java Expert Shell System (JESS) to implement the planner and a set of JESS rules that translate DAML-S descriptions of atomic services into planning operator; Section 1], as specified in the ontology specification, with the distributed computing service [DAML-S specifications; Section 4];

entering the semantic interpretation specification into a rules engine adapted for providing processor executable procedures [used the Java Expert Shell System (JESS) to implement the planner and a set of JESS rules that translate DAML-S descriptions of atomic services into planning operator; Section 1 and Section 4];

obtaining a set of procedures from the rules engine for interacting with the distributed service based on the semantic interpretation specification [transform services encoded as VSO triples into a set of facts that form the planning operator; Section 4 and translate DAML-S descriptions of atomic services into planning operators; Section 1 and Section 7.3]. Sheshagiri does not specifically teach receiving a request for interfacing with the distributed service and interfacing with the distributed computing service using the set of procedures in response to the request, wherein the interfacing comprises forming distributed computing service messages based on the ontology specification.

However, Duftler teaches receiving a request for interfacing with the distributed

service [service invocation, Section 4] and interfacing with the distributed computing

service using the set of procedures in response to the request [interface is used by

WSIF runtime to convert WSDL port into a WSIFPort, which is used to execute

operations; Section 5], wherein the interfacing comprises forming distributed computing

service messages based on the ontology specification [WSIF gives to its users a

uniform API to access WSDL-described Web Services; Section 5].

It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to modify the invention of Sheshagiri to incorporate the features of

Duftler. One of ordinary skill in the art at the time the invention was made would have

been motivated to make the combination because this allows services to be invoked in

an abstract manner, independent of protocol bindings and their implementations and

allows application code that uses Web Services to remain independent of the details of

the use of those Web Services [Section 6 of Duftler].

11.   As to claim 7, Sheshagiri as modified teaches an apparatus, comprising:

a data transfer interface for providing data connections to a distributed computing

service [Section 1 of Duftler and Section 1 of Sheshagiri]; and

a processor arranged to:

access an ontology specification [DAML-S uses DAML+OIL to describe a set of

ontologies for characterizing web services; Section 3 of Sheshagiri] describing

messages of the distributed computing service [DAML+OIL helps us to describe explicit

ontologies for capturing domain language; Section 2 of Sheshagiri];

access a semantic interpretation specification that describes rules for

semantically handling the messages [used the Java Expert Shell System (JESS) to

implement the planner and a set of JESS rules that translate DAML-S descriptions of

atomic services into planning operator; Section 1 of Sheshagiri], as specified in the

ontology specification [DAML-S specifications; Section 4 of Sheshagiri], used to

interface with the distributed computing service [WSIF gives to its users a uniform API

to access WSDL-described Web Services; Section 5 of Duftler];

enter the semantic interpretation specification into a rules engine adapted for

providing processor executable procedures [used the Java Expert Shell System (JESS)

to implement the planner and a set of JESS rules that translate DAML-S descriptions of

atomic services into planning operator; Section 1 and Section 4 of Sheshagiri];

obtain a set of procedures from the rules engine for interacting with the data

transfer service based on the semantic interpretation specification [transform services

encoded as VSO triples into a set of facts that form the planning operator; Section 4 and

translate DAML-S descriptions of atomic services into planning operators; Section 1 and

Section 7.3 of Sheshagiri]; and

interface with the distributed computing service [service invocation, Section 4 of

Duftler] via the data transfer interface using the set of procedures [interface is used by

WSIF runtime to convert WSDL port into a WSIFPort, which is used to execute

operations; Section 5 of Duftler], wherein the interfacing includes forming distributed

computing service messages based on the ontology specification [WSIF gives to its

users a uniform API to access WSDL-described Web Services; Section 5 of Duftler].

12.   As to claim 13, this is a program product claim that corresponds to method claim

1; see the rejection to claim 1 above, which also meet this program product claim.

13.   As to claim 19, Sheshagiri as modified teaches a system comprising:

        means for providing a distributed computing service [Section 1 of Duftler and

Section 1 of Sheshagiri];

        means for storing an ontology specification [DAML-S uses DAML+OIL to

describe a set of ontologies for characterizing web services; Section 3 of Sheshagiri]

describing messages of the distributed computing service [DAML+OIL helps us to

describe explicit ontologies for capturing domain language; Section 2 of Sheshagiri];

        means for storing a semantic interpretation specification that describes rules for

semantically handling the messages [used the Java Expert Shell System (JESS) to

implement the planner and a set of JESS rules that translate DAML-S descriptions of

atomic services into planning operator; Section 1 of Sheshagiri], as specified in the

ontology specification [DAML-S specifications; Section 4 of Sheshagiri], used to

interface with the distributed computing service [WSIF gives to its users a uniform API

to access WSDL-described Web Services; Section 5 of Duftler];

        means for accessing the semantic interpretation specification for entry into a

rules engine adapted for providing processor executable procedures [used the Java

Expert Shell System (JESS) to implement the planner and a set of JESS rules that

translate DAML-S descriptions of atomic services into planning operator; Section 1 and

Section 4 of Sheshagiri];

means for accessing an ontology describing messages of the distributed

computing service [Section 1 and Section 4 of Sheshagiri];

means for obtaining a set of procedures from the rules engine for interacting with

the distributed service based on the semantic interpretation specification [transform

services encoded as VSO triples into a set of facts that form the planning operator;

Section 4 and translate DAML-S descriptions of atomic services into planning operators;

Section 1 and Section 7.3 of Sheshagiri]; and

means for forming distributed computing service messages [service invocation,

Section 4 of Duftler] based on the ontology for use in the set of procedures [interface is

used by WSIF runtime to convert WSDL port into a WSIFPort, which is used to execute

operations; Section 5 of Duftler]; and

means for interfacing with the distributed computing service using the set of

procedures [WSIF gives to its users a uniform API to access WSDL-described Web

Services; Section 5 of Duftler].

14.   As to claim 21, Sheshagiri as modified teaches a method of interfacing with a

distributed computing service [Section 1 of Duftler and Section 1 of Sheshagiri]

comprising:

receiving a message from the distributed computing service [Section 2 of Duftler];

identifying a message type of the message for processing of the message [2nd

paragraph, p. 5 of Duftler];

accessing an ontology specification [DAML-S uses DAML+OIL to describe a set

of ontologies for characterizing web services; Section 3 of Sheshagiri] describing the

message type [DAML+OIL helps us to describe explicit ontologies for capturing domain

language; Section 2 of Sheshagiri];

accessing a semantic interpretation specification describing rules for semantically

handling the messages [used the Java Expert Shell System (JESS) to implement the

planner and a set of JESS rules that translate DAML-S descriptions of atomic services

into planning operator; Section 1 of Sheshagiri], as specified in the ontology

specification [DAML-S specifications; Section 4 of Sheshagiri], with the distributed

computing service based on the message type [WSIF gives to its users a uniform API to

access WSDL-described Web Services; Section 5 of Duftler];

entering the semantic interpretation specification into a rules engine adapted for

providing processor executable procedures [used the Java Expert Shell System (JESS)

to implement the planner and a set of JESS rules that translate DAML-S descriptions of

atomic services into planning operator; Section 1 and Section 4 of Sheshagiri];

obtaining a set of procedures from the rules engine for interacting with the

distributed service based on the semantic interpretation specification [transform

services encoded as VSO triples into a set of facts that form the planning operator;

Section 4 and translate DAML-S descriptions of atomic services into planning operators;

Section 1 and Section 7.3 of Sheshagiri]; and

interfacing with the distributed computing service [service invocation, Section 4 of

Duftler] using the set of procedures in response to the message [interface is used by

WSIF runtime to convert WSDL port into a WSIFPort, which is used to execute

operations; Section 5 of Duftler], wherein the interfacing comprises forming a distributed

computing service message based on the ontology specification and outputting the

message [WSIF gives to its users a uniform API to access WSDL-described Web

Services; Section 5 of Duftler].

15.   As to claim 25, this is a system claim that corresponds to method claim 1; see

the rejection to claim 1 above, which also meets this system claim.

16.   As to claim 2, Sheshagiri teaches the distributed computing service comprises a

Web service [web services; Section 3].

17.   As to claim 3, Sheshagiri teaches the semantic interpretation specification

comprises an expert system interpretable specification [used the Java Expert Shell

System (JESS) to implement the planner and a set of JESS rules that translate DAML-S

descriptions of atomic services into planning operator; Section 1].

18.   As to claim 4, Sheshagiri teaches the semantic interpretation specification

comprises rules usable with a rule-based expert system [used the Java Expert Shell

System (JESS); Section 1].

19.   As to claim 6, Sheshagiri as modified teaches interfacing with the distributed

computing service using the set of procedures comprises forming a service bridge

having a generic programmatic interface adapted to receive the request [WSIF gives to

its users a uniform API to access WSDL-described Web Services; Section 5 of Duftler].

20.   As to claim 8, Sheshagiri as modified teaches the data transfer interface

comprises a network interface [Section 1 of Duftler and Section 1 of Sheshagiri].

21.   As to claims 9 – 12, these are apparatus claims that correspond to method

claims 2 – 4 and 6, respectively; see the rejection to claims 2 – 4 and 6 above, which

also meet these apparatus claims.

22.   As to claims 14 – 16 and 18, these are program product claims that correspond

to method claims 1 – 4 and 6, respectively; see the rejection to claims 1 – 4 and 6

above, which also meet these program product claims.

23.   As to claims 22 and 23, see the rejection to claims 2 and 4 above.

24.   As to claims 26 and 28, these are system claims that correspond to method

claims 2 and 4, respectively; see the rejection to claims 2 and 4 above, which also meet

these system claims.

25.   As to claim 27, Sheshagiri teaches a data storage arrangement is adapted for

providing the semantic interpretation specification via a network [Section 3].

Conclusion

26.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

"Semantic Web Service Architecture Using Multi-agent Scenario Description"

discloses a system that translates multi-agent scenario to DAML-S, and that registers

the translated DAML-S as a new Web service.

"Ontology Support for Web Service Processes" discloses a formal ontology

framework for these Web service processes that supports the description, matching,

and composition through logic reasoning techniques.

"Using DAML-S for P2P Discovery" discloses mechanisms for Web services

Discovery proposed so far have assumed a centralized registry that collects information

about all the Web services available at any given time.

CONTACT INFORMATION

27.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Li B. Zhen whose telephone number is (571) 272-3768.

The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571)272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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